TABULATING THE FEEDING OF NESTLINGS

BY A. E. SHIRLING

We had a class of forty young teachers studying ornithology in Estes Park, Colorado, June-July. In the altitude of the Park (7,500 feet) this was the height of the nesting season.

Conditions of environment were favorable, the members of the class were "peppy", and ever on the alert for something new to do. The territory around Camp Olympus was divided into five districts, the class was divided into five groups and by a system of rotation each district was canvassed ten times, or twice by each group, for birds' nests. The groups competed to see which could find the greater number of nests. Many nests were found, but the story of these findings makes a story in itself. This story is to be about the feeding of fledglings, their appetites and the industry of their parents.

Near the top of the trunk of a partly dead yellow pine there were four cavities excavated by woodpeckers. One was occupied by a family of Red-shafted Flickers, another, about four feet lower down, was the home of a family of Red-naped Sapsuckers, in another a pair of Violet-green Swallows had gone to housekeeping, and the other was unoccupied. Near by, in the stub of an old dead tree, a pair of Western House Wrens were raising their brood. All these nests were plainly visible at the same time to an observer.

It was suggested that the class watch these nests for an entire day and tabulate the feeding visits of the parents to the young in the nest. This could be done with three of the nests only, as the Violet-green Swallows had not yet hatched.

"Sure," the members of the class were ready, "let's do it tomorrow."

They worked in relays, two at a time, watching for an hour. One held the watch, the other a pad and pencil. Every time a bird visited the nest to feed the young, the time was recorded. The first relay was waiting and watching at four o'clock A. M. for the first sight of activity.

The Red-naped Sapsucker left the nest at 4:17 A. M., and the Red-shafted Flicker at 4:39. The Red-nape returned with food eight minutes later but the Flicker did not begin to feed her young until 5:15. The House Wren was a close second to the Sapsucker and gave the first morsel to her babies at 4:26.

The Red-naped Sapsucker was also the last to feed the young in the evening, visiting the nest at 7:51. The Flicker went to the nest and entered without leaving at 7:49. The House Wren left the nest and

did not return at 7:44. It was quite dusk at this time of day, (July 7).

During the interval of these first and last feedings, over fifteen hours apart, the House Wrens fed their young most frequently, visiting the nest 373 times. The Red-naped Sapsucker fed 238 times, and the Red-shafted Flicker 43 times.

Summary of Records on Feeding of Nesting Birds, Camp Olympus, Estes Park, Colorado, July 7, 1925, and August 3, 1925:

Time Hour	Number of feeding visits to to the nest.				
	Red-naped Sapsucker	Red-shafted Flicker	Western House Wren	Violet-green Swallow	Chestnut-backed Bluebird
4-5 A. M.	16	0	12	0	6
5-6	16	3	26	12	25
6-7	18	3	39	31	15
7-8	17	3	41	31	26
8-9	8	3	21	23	15
9-10	18	4	22	20	17
10-11	20	2	20	19	28
11-12	11	3	18	17	16
12-1 P. M.	13	2	16	22	24
1-2	14	1	24	14	26
2-3	16	2	11	9	17
3-4	17	4	24	12	29
4-5	10	2	15	17	21
5-6	17	3	38	14	19
6-7	15	3	36	17	33
7-7:30	12	5	10	2	6
Total	238	43	373	260	323

The difference in the feeding visits of the Flicker and of the Sapsucker was interesting. It did not take long for the watchers to see the reason for this difference. The Sapsucker carried its food in its bill. The wings and bodies of insects could be seen between its mandibles with the aid of glasses. On the other hand the Flicker came with a whole crop full of delicacies and in feeding put its bill far down the throat of the little ones and then pumped up the food, first down one throat and then another, feeding several birds at one visit. The young were far enough along in their development to stick their heads out of the entrance hole and the regurgitating process could be well observed.

At each nest the male and female birds seemed to share equally the responsibility of feeding.

The feeding was fairly evenly distributed during the day. The average interval for the House Wren was about two and one-half minutes apart, and for the Flicker twenty minutes. The Sapsucker fed the greater number of times between 10 and 11 A. M. (20 times), the Flicker between 7 and 8 P. M. (5 times), and the House Wren between 5 and 6 P. M. (38 times).

The exact age of the young birds was not known, but in each case they were well developed and left the nest a few days later.

On August third a similar tabulation was made on the feeding of a brood of Violet-green Swallows and of Chestnut-backed Bluebirds that were about two feet apart in woodpecker cavities in another pine tree. The Bluebirds visited the nest 323 times during the day, and the Violet-green Swallows 260. This, however, was hardly a fair comparison, as the swallows began to leave the nest during the day, and by night three had gone, hence part of the feeding could not be recorded.

Between the hours of 6 and 7 P. M., the Bluebirds visited the nest to feed the young thirty-three times. The swallows did not begin feeding until nearly an hour later than the Bluebirds.

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THREE INTERESTING BREEDING RECORDS FOR 1925 FROM THE PIEDMONT REGION OF NORTHEASTERN GEORGIA

BY THOS. D. BURLEIGH

From the standpoint of topography and soil, and even climate, Georgia has been divided into three sections which are all readily separated one from the other, and which are distinct enough that their characteristics are apparent to the most casual observer. One, the Coastal Plain, covers, roughly speaking, the southern half of the state; the second, the Piedmont Plateau, comprises the larger part of the remainder of the state, the third section, the Mountain Region, being limited to the northern tier of counties and rather small in area when taken into consideration the state as a whole. It was in the northeastern corner of this Piedmont region, about Athens, the county seat of Clarke County, that these notes were taken, the breeding records, all of them, pertaining to this past spring, 1925. To those unfamiliar with this Piedmont region it might be said briefly that it is characterized by being rather hilly, a transition as it were from the mountains to the level coastal plain, and with a red clay soil the more evident be-